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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/088,209	03/15/2002	Hideki Hirano	1155-0245P	1052

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BIRCH STEWART KOLASCH & BIRCH  
PO BOX 747  
FALLS CHURCH, VA 22040-0747

EXAMINER

MULLIS, JEFFREY C

ART UNIT	PAPER NUMBER
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1711

DATE MAILED: 08/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/088,209

Applicant(s)

HIRANO ET AL.

Examiner

Jeffrey C. Mullis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 16 December 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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Claim 5 appears to be repeated twice. Therefore applicants might want to re-present all of their claims once in order to avoid confusion in response to this Office action.

Claims 1-8 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention.

The term "molecular weight distribution" as understood by those skilled in the art refers to the ratio of weight average molecular weight to number average molecular weight. However claim 1 in Part "iii" recites that the molecular weight distribution is number average molecular weight over number average molecular weight. Furthermore it is stated that this ratio is the weight average molecular weight to number average molecular weight which is contradictory. This is confusing.

The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

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Claims 1 and 5 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Nino et al. (USP 5,942,568) in view of Hirano et al. (either one of U.S. Patent 6,221,961 or (which is equivalent to) PCT Patent WO 98/58024).

Since the patents to Hirano et al. are equivalents, the citations will be taken from the U.S. patent rather than the PCT patent since the U.S. patent is in English while the PCT patent is in Japanese.

Nino et al. disclose a composition containing polyoxymethylene resin in the amount of 50-99.9 parts by weight as in applicants' polyacetal resin and 0.1-50 parts of polyolefin resin. Note the Abstract. Note that the polyolefin resin includes grafted polyolefin resins at column 6 lines 45-49. Applicants' liquid ethylene/alphaolefin random copolymers are apparently disclosed at the paragraph bridging columns 7 and 8 and would reasonably appear to have applicants' molecular weight distribution characteristic given the broad range of molecular weight distribution recited by the claims and given that the molecular weight distribution is within the range generally reported for Ziegler-Natta products (although admittedly applicants' molecular weight distribution will be at the very lower end of the range generally reported for such products).

Hirano discloses applicants' liquid ethylene/alphaolefin copolymers and also discloses that they have a beneficial effect

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upon addition to polyacetal or ABS resins in that they increase mold release ability and friction/wear resistance. Note the Abstract.

Arguably the Examiner may be incorrect and the ethylene/propylene low molecular weight copolymers of Nino et al. may not inherently possess applicants' molecular weight distribution characteristic. However it would have been obvious to a practitioner having ordinary skill in the art at the time of the invention to add the ethylene/alphaolefin copolymers of Hirano et al. to the composition of the primary reference in order to increase the mold release properties and friction/wear characteristics of the composition of the primary reference and further motivated by the primary reference's disclosure of the need for a low molecular weight ethylene/alphaolefin copolymer absent any showing of surprising or unexpected results.

Claims 1-8 are rejected under 35 U.S.C. § 103(a) as being unpatentable over either Kodama et al. (USP 5,290,855) or Kato et al. (USP 5,442,000), both cited by applicants, in view of Hirano et al., cited above.

Note Kodama et al. in Table 5 and the Abstract which discloses a composition containing a combination of PBT and ABS.

Note Kato et al. which discloses a composition containing a combination of PBT and ABS in the Abstract and at column 3 lines 1-21.

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The two primary references Kodama et al. and Kato et al. do not disclose the presence of applicants' low molecular weight ethylene/alpha copolymer "C".

It would have been obvious to a practitioner having ordinary skill in the art at the time of the invention to add the ethylene/alpha copolymer of Hirano et al. to the composition of the primary reference motivated to extend the advantages of Hirano et al. to the primary reference absent any showing of surprising or unexpected results.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey Mullis whose telephone number is (703) 308-2820. The examiner can normally be reached on Monday-Friday from 9:30 to 6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck, can be reached on (703) 308-2462. The fax phone number for this Group is before final (703) 872-9310 and after final (703) 8729311.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-2351.

J. Mullis:cdc

August 12, 2003

Serial No. 10/088,209

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Jeffrey Mullis  
Primary Examiner  
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A handwritten signature in black ink, appearing to be 'J. Mullis', written over the printed name and title.